

In the claims

Please revise the claims as follows:

1. (currently amended) A method of reducing carbon levels in fly ash comprising:

(a) providing a microwave reactor comprising a chamber having within an interior a bed of carbon-free material in particulate form, the carbon-free material comprising a microwave-receptor and comprising a substance which does not significantly chemically react with the fly ash, and having a particle size suitable for mixing with the fly ash;

~~(a)~~ (b) placing the fly ash in a the microwave reactor on the bed;

~~(b)~~ (c) exposing the fly ash to microwave radiation in the presence of the carbon-free material so as to raise the fly ash temperature to at least 600° C while agitating the fly ash in the presence of oxygen; and

~~(c)~~ (d) terminating exposure of said the fly ash to the said microwave radiation when the carbon content of the fly ash has fallen below a predetermined level.

2. (original) The method of claim 1 wherein the microwave reactor is a fluidized bed vessel.

3. (currently amended) The method of claim 1 further including a system for monitoring the temperature of the said-fly ash.

4. (original) The method of claim 1 carried out without the addition of auxiliary fuel.

5. (currently amended) The method of claim 1 wherein the fly ash has a carbon content of at least 3% by weight prior to the exposure.

6. (original) The method of claim 1 wherein the microwave radiation has a frequency between 300 MHz and 3000 MHz.

7. (original) The method of claim 1 wherein a microwave radiation power level and process duration time are employed which are sufficient to produce a specific energy in the fly ash of between 2 kW-h/t and 25 kW-h/t.

8. (original) The method of claim 1 wherein a microwave radiation power level and process duration time are employed which are sufficient to produce a specific energy in the fly ash of between 5 kW-h/t and 10 kW-h/t.

9. (original) The method of claim 1 wherein the fly ash has a size in excess of 106 microns.

10. (currently amended) The method of claim 1 wherein the exposure of ~~said~~ the fly ash to ~~said~~ the microwave radiation is terminated when the temperature of the fly ash falls below 600° C.

11. (original) The method claim 1 wherein the predetermined level is 3% carbon by weight.

12. (original) The method of claim 1 wherein the microwave reactor further includes a material feed system to introduce fresh fly ash and a removal system to remove treated fly ash.

13. (original) The method of claim 12 wherein the material feed system is adapted to introduce fresh fly ash into the microwave reactor when the carbon content of the treated fly ash falls below a predetermined level.

14. (original) The method of claim 1 wherein the microwave reactor further includes a material feed system to continuously introduce fresh fly ash and a removal system to continuously remove treated fly ash, in which the fly ash within the microwave reactor is maintained at a temperature in the range 800° C-850° C and specific microwave energy in the range 5-10 kW-h/t is imparted to it.

15. (currently amended) A method of reducing carbon levels and ammonia levels in fly ash containing ammonia comprising:

(a) exposing the fly ash to microwave radiation in the presence of, and mixed with, particulate carbon-free material so as to raise its the temperature of the fly ash to at least 600°C while agitating the fly ash in the presence of oxygen, the carbon-free material comprising a microwave receptor which does not substantively react chemically with the fly ash, the particle size being suitable for mixing with the fly ash; and

(b) terminating exposure of ~~said~~ the fly ash to ~~said~~ the microwave radiation when the carbon content of the fly ash has fallen below a predetermined level.

16. (currently amended) The method of claim 46 15 wherein the microwave reactor is fluidized bed vessel.

17. (currently amended) The method of claim 46-15 further including a system for monitoring the temperature of ~~said~~ the fly ash.

18. (currently amended) The method of claim 46-15 carried out without the addition of auxiliary fuel.

19. (new) The method of claim 1 wherein the carbon-free material is selected from the group consisting of manganese dioxide and silica.

20. (new) The method of claim 1 wherein the carbon-free material is mixed with the fly ash during the exposure.

21. (new) The method of claim 1 wherein the carbon-free material is courser in particle size than the fly ash.